

## Pivampicillin in treating genital infection with *Chlamydia trachomatis*

BIRGER R MØLLER,\* MARIE CRAMERS,† AND ELLIS FROM†

From the \*Department of Obstetrics and Gynaecology, and the †Department of Dermatology and Venereology, University Hospital, Aarhus, Denmark

**SUMMARY** Pivampicillin was used to treat urogenital colonisation with *Chlamydia trachomatis* in 41 women and 24 men who yielded chlamydiae but not gonococci. They were treated for 10 days. All but one patient gave negative chlamydia cultures 10 days after the start of treatment, and all 65 patients gave negative results at the second examination seven days later. Ten days of treatment with pivampicillin seems to be the optimum to eradicate *C trachomatis* from the lower genital tract in man.

### Introduction

Erythromycin and tetracyclines have long been used to treat genital infection with *Chlamydia trachomatis*, and are generally accepted as first choice drugs. The in vitro activity of pivampicillin against chlamydiae indicates possible efficacy in treating chlamydial infection in man, although some publications have reported clinical failure of pivampicillin to treat such infection.<sup>1,2</sup> In the report published here we describe the eradication of *C trachomatis* from the genital tract of men and women with pivampicillin.

### Patients, materials and methods

#### PATIENTS

We studied men and women attending the Department of Dermatology and Venereology of this hospital from February 1983 to August 1984, who yielded cultures of *C trachomatis* from the urethra or cervix, or both, but were culture negative for *Neisseria gonorrhoeae*. Patients who had taken antimicrobial agents in the preceding month and those who were allergic to penicillins were excluded.

#### STUDY DESIGN

At the first visit the urethral exudates from men and the urethral and cervical exudates from women were examined by methylene blue stain and cultured for *N gonorrhoeae*. Samples were also taken from the same

sites using an ear, nose, and throat (ENT) swab (Medical Wire and Equipment Co, Corsham, Wiltshire, England) and cultured for *C trachomatis*.

At the second visit, five to seven days later, treatment with oral pivampicillin was begun in chlamydia positive, gonococcal negative patients. The antibiotic was given for 10 days in all cases, in the following doses: 1 g three times daily (29 patients); 700 mg three times daily (18); 1 g twice daily (two); 700 mg twice daily (one); 500 mg three times daily (15). Follow up visits, when urethral and cervical specimens were cultured for *C trachomatis*, were on days 10 and 17 after the start of treatment.

The patients were asked to abstain from sexual intercourse during treatment and in the follow up period. Their sexual partners were examined as described above and, if chlamydia culture positive, were treated simultaneously.

#### LABORATORY PROCEDURES

Cultures for *C trachomatis* and *N gonorrhoeae* were performed as described previously.<sup>3</sup>

### Results

We studied 41 women and 24 men. All but one patient were chlamydia culture negative at the first follow up, and all 65 patients were negative at the second examination seven days later.

Side effects were recorded in six patients; four (10%) of the 41 women developed vaginitis caused by *Candida albicans*, whereas two (3.1%) of the 65 patients experienced maculopapular eruptions of the skin.

Address for reprints: Dr Birger R Møller, Department of Obstetrics and Gynaecology, University Hospital, Aarhus Kommunehospital, DK-8000 Aarhus C, Denmark

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## Discussion

Susceptibility of *C trachomatis* to different antibiotics in vitro has been examined by Johannisson *et al.*<sup>2</sup> They measured minimum inhibitory concentrations (MICs) of antibiotics for a cell culture adopted strain, and found that the most effective were: erythromycin (MIC 0.5 mg/l), pivampicillin (MIC 0.25 mg/l), oxytetracycline (MIC 0.1 mg/l), and doxycycline (MIC 0.05 mg/l). Thus the in vitro activity of pivampicillin against *C trachomatis* indicates that it is as effective as first choice drugs (erythromycin and tetracyclines). In the study by Johannisson *et al.*, however, 22 chlamydia positive patients were treated with 0.35 g pivampicillin three times daily for seven days, but five still harboured *C trachomatis* after treatment. In a Danish study, Hagdrup *et al.* evaluated pivampicillin in treating 14 patients who had chlamydia positive non-gonococcal urethritis.<sup>1</sup> The patients were treated with 500 mg pivampicillin orally three times a day for seven days and followed up on days 10 and 17 after the start of treatment. Only seven of the patients were culture negative at both follow up visits, whereas three were

culture negative at the first follow up but positive at the second examination, and four were positive at both follow up visits. Hagdrup *et al.* therefore concluded that pivampicillin was less effective than tetracyclines and erythromycin.

In the above studies patients were treated with pivampicillin for only seven days, which seems to be insufficient. We found that 10 days of treatment with the drug was optimum for eradicating *C trachomatis* from the lower genital tract of men and women. Studies are in progress to evaluate the optimum doses of pivampicillin and the clinical response of genital infection to this drug.

## References

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3. Møller BR, Ahrons S, Laurin J, Mårdh P-A. Pelvic infection after elective abortion associated with *Chlamydia trachomatis*. *Obstet Gynecol* 1982;59:210-3.